

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (withdrawn): A solar energy concentrator comprising:
a membrane reflector shaped to have a substantially parabolic cross-section and having a unitary line focus; and
a transparent tubular housing enclosing said reflector.

Claim 2 (withdrawn): The concentrator recited in claim 1 wherein said reflector is shaped by a plurality of strings extending within said tubular housing.

Claim 3 (withdrawn): The concentrator recited in claim 2 wherein said strings are in a state of tension.

Claim 4 (withdrawn): The concentrator recited in claim 1 wherein said reflector is shaped by a plurality of string pairs, each such pair having a string on front and back surfaces of said reflector.

Claim 5 (withdrawn): The concentrator recited in claim 4 wherein said string pairs are in a state of tension.

Claim 6 (withdrawn): The concentrator recited in claim 1 wherein said housing is internally pressurized above external atmospheric pressure by a gas within said housing.

Claim 7 (withdrawn): The concentrator recited in claim 1 wherein said reflector is shaped by constrained elongated fibers intimate with said reflector and said fibers are subjected to tension to constrain said reflector in said parabolic cross-section.

Claim 8 (withdrawn): The concentrator recited in claim 7 wherein a gas inside said housing is under pressure and wherein said pressure at least partially contributes to said tension of said fibers.

Claim 9 (withdrawn): The concentrator recited in claim 1 wherein said housing comprises opposed end plates, a gas in said housing being pressurized to cause said endplates to be extended further from one another; and wherein said reflector is shaped by a plurality of string pairs, each said pair supporting said reflector on front and back surfaces of said reflector, said string pairs being connected to said endplates and being subjected to tension depending on the separation between said endplates.

Claim 10 (withdrawn): The concentrator recited in claim 2 wherein said reflector comprises metallized Mylar and wherein said strings comprise carbon fiber.

Claim 11 (withdrawn): The concentrator recited in claim 1 further comprising a solar energy receiver extending along at least a portion of said line focus.

Claim 12 (withdrawn): The concentrator recited in claim 1 further comprising means for rotating said housing to control the orientation of said reflector relative to incident sunlight.

Claim 13 (withdrawn): The concentrator recited in claim 2 wherein said strings and said reflector intersect.

Claim 14 (withdrawn): The concentrator recited in claim 2 wherein said strings are integral to said reflector.

Claim 15 (withdrawn): The concentrator recited in claim 2 wherein said strings are formed within sleeves on the back side of said reflector.

Claim 16 (withdrawn): The concentrator recited in claim 2 wherein said membrane reflector is slidably received by said strings without any significant tension being applied to said membrane reflector.

Claim 17 (withdrawn): The concentrator recited in claim 9 wherein said endplates each comprise an axially flexible material.

Claim 18 (withdrawn): A solar energy concentrator comprising parabolic trough having a reflector shaped by a plurality of tensioned string pairs extending along said trough, each said pair having respective strings positioned on opposed surfaces of said reflector.

Claim 19 (withdrawn): The concentrator recited in claim 18 further comprising a gas-tight tubular transparent housing enclosing said reflector.

Claim 20 (withdrawn): The concentrator recited in claim 18 wherein said reflector comprises a film having a reflective surface and wherein said film is received between said pairs of strings without any significant tension being applied to said film.

Claim 21 (withdrawn): The concentrator recited in claim 19 wherein said housing is hermetically sealed by a pair of opposed endplates, each such endplate comprising an axially flexible material.

Claim 22 (withdrawn): The concentrator recited in claim 19 wherein a gas inside said housing is pressurized above external atmospheric pressure.

Claim 23 (withdrawn): The concentrator recited in claim 19 wherein a gas inside said housing is under pressure and wherein said pressure at least partially contributes to said tension of said fibers.

Claim 24 (withdrawn): The concentrator recited in claim 18 wherein said reflector comprises metallized Mylar and wherein said strings comprise carbon fiber.

Claim 25 (withdrawn): The concentrator recited in claim 19 further comprising means for rotating said concentrator to control the orientation of said reflector and receiver relative to incident sunlight.

Claim 26 (original): A solar energy concentrator comprising:
a tubular housing having opposed ends;
a pair of opposed endplates sealing said housing; and
a parabolic contoured reflective surface extending within said housing; said endplates having a convoluted circumferential edge, said tubular housing being hermetically secured at said ends in compression against said edge.

Claim 27 (original): The solar concentrator recited in claim 26 further comprising a ring assembly having a plurality of shoes and a clamp for compressing said ends of said housing against said convoluted edges of said endplates.

Claim 28 (new): The solar concentrator recited in claim 26 wherein said parabolic contoured reflective surface has a unitary line of focus.

Claim 29 (new): The solar concentrator recited in claim 26 wherein said parabolic contoured reflective surface is shaped by a plurality of strings extending within said tubular housing.

Claim 30 (new): The solar concentrator recited in claim 29 wherein said strings are in a state of tension.

Claim 31 (new): The solar concentrator recited in claim 26 wherein said parabolic contoured reflective surface is shaped by a plurality of string pairs, each such pair having a string on front and back surfaces of said reflective surface.

Claim 32 (new): The solar concentrator recited in claim 31 wherein said strings are in a state of tension.

Claim 33 (new): The solar concentrator recited in claim 26 wherein said housing is internally pressurized above external atmospheric pressure by a gas within said housing.

Claim 34 (new): The solar concentrator recited in claim 26 wherein said parabolic contoured reflective surface is shaped by constrained elongated fibers intimate with said reflective surface and said fibers are subjected to tension to constrain said reflective surface in said parabolic cross-section.

Claim 35 (new): The solar concentrator recited in claim 34 wherein a gas inside said housing is under pressure and wherein said pressure at least partially contributes to said tension of said fibers.

Claim 36 (new): The solar concentrator recited in claim 26 wherein said reflective surface comprises metallized Mylar and wherein said strings comprise carbon fiber.

Claim 37 (new): The solar concentrator recited in claim 28 further comprising a solar energy receiver extending along at least a portion of said line focus.

Claim 38 (new): The solar concentrator recited in claim 26 further comprising means for rotating said housing to control the orientation of said reflector relative to incident sunlight.

Claim 39 (new): The solar concentrator recited in claim 29 wherein said strings are formed within sleeves on the back side of said reflector.

Claim 40 (new): The solar concentrator recited in claim 29 wherein said reflective surface is slidably received by said strings without any significant tension being applied to said membrane.

Claim 41 (new): The solar concentrator recited in claim 26 wherein at least one endplate comprises an axially flexible material.